REMARKS

Claims 41, 42, 45-48, and 50-60 remain pending in the application. Favorable reconsideration of the application is respectfully requested in view of the following remarks.

I. Allowable Subject Matter

Applicant acknowledges the Examiner's conclusion that claim 45 recites allowable subject matter and would be allowed if rewritten in independent form including the limitations of the base claim and any intervening claims. Applicant also acknowledges the Examiner's conclusion that claim 60 is allowed. For the following reasons, Applicant submits that all claims are patentable and therefore should be allowed.

II. Claim Rejections – 35 U.S.C. § 103(a)

Claims 41, 42, 46-48, and 50-59 stand rejected pursuant to 35 U.S.C. § 103(a) as being obvious over Truchan et al., U.S. Patent No. 6,455,166 (Truchan) in view of Feldman, *Applied Physics Letters*, Vol. 77, No. 18 (October 2000), pages 2906-08 (Feldman), the combination by itself or further in view of additional tertiary references. Applicant traverses the rejections for at least the following reasons.

The Examiner may recall that in response to the previous Office Action, independent claim 41 was amended to recite in part the step of "producing on said surface of said metallic substrate or on top of said buffer layer grooves in a direction of current flow." In the current Final Office Action, the Examiner asserts that Feldman discloses such step of producing the grooves. Applicant disagrees with this interpretation of Feldman.

In Applicant's method, the grooves are formed intentionally as part of a distinct "polishing step". Furthermore, the "grooves are oriented along the direction of the current flow, that is the direction of the tape." (Application at page 12, lines 9-18.) The Application further states that "due to the groove structure, which causes an anisotropic diffusivity and therefore influences the growth of the buffer layer grains such that an

elongated shape develops, grains with large aspect ratios are produced in the buffer layer." (Application at page 12, lines 30 to page 13, line 1.) The grooves, therefore, are oriented "in a direction of current flow" (claim 41) so as to enhance the elongated grain structure of the superconductor material.

Feldman relates to measuring barriers to current flow through a superconductor that may occur at the grain boundaries. Specifically, Feldman concludes that the barrier effects become negligible when the misorientation of the grain boundaries is less than four degrees relative to the longitudinal direction. The barrier effects become more pronounced at misorientation angles greater than four degrees. (See, e.g., Feldman at page 2907 and Fig. 3.)

Beyond identifying a pertinent threshold misorientation angle of the grain boundaries, Feldman says little about addressing the issue. In this vein, Feldman states that the measurements "immediately suggest two important goals for process improvement. One is to improve *local* texture of the substrate, while a second is to engineer the threshold angle to greater values." (Feldman at page 2908, left column.) One may consider that the claimed invention is a form of improving the local texture, i.e. the grain configuration, of the substrate. Feldman, however, does not disclose or suggest any specific ways of ***treating the surface*** of the substrate (or buffer layer), or otherwise disclose or suggest ways of improving the local texture in any fashion. In contrast, the claimed invention recites a specific claim step of forming grooves on the surface of the substrate or buffer layer in the direction of the current flow. Feldman does not disclose or suggest any such treatment.

Accordingly, Feldman does not disclose or suggest the step of "producing on said surface of said metallic substrate or on top of said buffer layer grooves in a direction of current flow", as recited in independent claim 41. The other references cited by the Examiner also do not disclose such step of forming grooves, and the Examiner does not indicate otherwise. Claim 41, therefore, is allowable, and the claims that depend from claim 41 are allowable for at least the same reasons.

III. Conclusion

Accordingly, claims 41, 42, 45-48, and 50-60 are believed to be allowable, and the application is believed to be in condition for allowance. A prompt action to such end is respectfully requested.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

If there are any additional fees resulting from this communication, including any extension or additional claims fees, charge the same to our Deposit Account No. 18-0988, our Docket No. ABAGP0110US. In the event an extension of time is required, please regard this communication as including a petition for such extension of time.

Respectfully submitted,

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